CITY OF CHICOPEE
CONTRIBUTORY RETIREMENT SYSTEM

Actuarial Valuation Report

January 1, 2008

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Report Summary:

Highlights	January 1, 2007	January 1, 2008
Contributions		
Funding Schedule FY 2009	$13,046,583	$13,046,583
Funding Schedule FY 2010	13,538,277	13,538,277
Funded Ratios		
GAS No. 25	58.9%	61.7%
Participants		
Actives	1,183	1,196
Retirees and Beneficiaries	735	729
Inactives	89	89
Disabled	96	96
Total	2,103	2,110
Payroll		
Payroll of Active Members	$43,926,570	$46,432,360
Average Payroll	37,132	38,823
Normal Cost		
Employer	2,678,517	2,742,419
Employee	3,593,108	3,837,376
Administrative Expenses	300,000	325,000
Total	6,571,625	6,904,795
Actuarial Accrued Liabilities		
Actives	111,018,568	121,582,419
Retirees, Beneficiaries, Disabilities and Inactives	122,502,381	125,467,779
Total	234,411,155	247,050,198
Actuarial Value of Assets	138,063,455	152,421,634
Unfunded Actuarial Accrued Liabilities	$96,347,700	$94,628,564

Introduction

This report presents the findings of an actuarial valuation as of January 1, 2008, of the Chicopee Contributory Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2008.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the Chicopee Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2008 and January 1, 2007, respectively.

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

The Board voted to maintain the current funding schedule based on the 2007 actuarial valuation. The appropriations shown in this report are based on the 2007 results. All other values are based on the 2008 valuation. Had the Board opted to establish a new funding schedule using the 2008 results and fully amortizing the unfunded liability by FYE 2021, the result would have been a reduction in FYE 2009 of about $80,000.

For the purposes of testing the funding ratio under Chapter 68 of the Acts of 2007, we used an investment return of 8.25%. The resulting funding ratio is 65.7%.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

During the last year, the total unfunded actuarial accrued liability decreased by 1.8% to $94,628,564. The decrease is the result of net favorable actuarial experience during the preceding year. The actuarial value of assets for 2007 had a return of 9.8%. The sources of the (gain)/loss are as follows:

Investment	(2,430,827)
Salary	349,843
New Participants	380,705
Active Decrements (Termination)	727,310
Active Decrements (Disability)	342,554
Active Decrements (Retirement)	452,192
Active Decrements (Death)	(491,382)
Inactive - Mortality and data adjustments	1,015,984
Other, including purchased service, contributions, data	(830,810)
Total (gain)/loss	(484,431)

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Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	January 1, 2007	January 1, 2008
Superannuation	$4,272,862	$4,502,321
Termination	437,281	448,062
Death	500,196	523,445
Disability	1,061,286	1,105,967
Administrative Expenses	300,000	325,000
Total Normal Cost	6,571,625	6,904,795
% of Pay	15.0%	14.9%
Employee Contributions	3,593,108	3,837,376
% of Pay	8.2%	8.3%
Employer Normal Cost	$2,978,517	$3,067,419
% of Pay	6.8%	6.6%

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Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits based on the past service of the actives and inactives. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	January 1, 2007	January 1, 2008
Actives		
Superannuations	$95,581,328	$105,229,782
Termination	1,761,830	1,776,583
Death	4,428,803	4,791,105
Disability	9,246,607	9,784,949
Retirees and Inactives		
Retirees and Beneficiaries	97,685,308	99,079,810
Terminated (Refund)	890,206	850,801
Disabled	24,817,073	25,537,168
Total	$234,411,155	$247,050,198

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Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	January 1, 2007	January 1, 2008
Actives		
Superannuation	$138,341,920	$149,198,141
Termination	3,658,507	3,732,670
Death	9,172,695	9,657,754
Disability	19,351,208	21,799,824
Retirees and Inactives		
Retirees and Beneficiaries	97,685,308	99,079,810
Terminated (Refund)	890,206	850,801
Disabled	24,817,073	25,537,168
Total	$293,916,917	$309,856,168

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Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	January 1, 2007	January 1, 2008
Cash equivalents	$1,977,049	$7,210,450
Short term investments	7,363,081	0
Fixed income securities	33,521,010	32,154,941
Equities	66,674,144	67,178,727
International	21,711,577	23,699,123
Real Estate	10,810,428	14,618,427
Venture Capital	0	0
Other	0	7,142,253
Accounts receivable	917,164	996,285
Accounts payable	(323,714)	(589,280)
Accrued income	9,182	10,535
Total Market Value	$142,659,921	$152,421,462
Total Actuarial Value	$138,063,455	$152,421,634

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Actuarial Value of Assets

The actuarial value of assets is determined by projecting the market value of assets as of the beginning of the prior plan year with the assumed rate of return during that year (8.0%) and accounting for deposits and disbursements with interest at the assumed rate of return. An adjustment is then applied to recognize the difference between the actual investment return and expected return over a five year period. This preliminary actuarial value is not allowed to differ from the market value of assets by more than 10%. The calculation of the actuarial value of assets as of January 1, 2008 is presented in Table V.

Table V

		January 1, 2008
(1)	Market value at January 1, 2007	$142,659,921
(2)	2007 Contributions	16,913,095
(3)	2007 Benefit payments	(16,064,754)
(4)	Net interest adjustment at 8.0% on (1), (2), and (3) to December 31, 2007	11,446,727
(5)	Expected market value on January 1, 2008 (1) + (2) + (3) + (4)	$154,954,989
(6)	Actual market value on January 1, 2008	$152,421,462
(7)	2007 Loss	2,533,527
(8)	80% of 2007 loss	2,026,822
(9)	2006 Gain	(3,051,523)
(10)	60% of 2006 gain	(1,830,914)
(11)	2005 Loss	307,478
(12)	40% of 2005 loss	122,991
(13)	2004 Gain	(1,593,639)
(14)	20% of 2004 gain	(318,728)
(15)	Actuarial value on January 1, 2008 (6) + (8) + (10) + (12) + (14) but not less than 90% or more than 110% of (6)	$152,421,634
(16)	Ratio of actuarial value to market value	100.00%
(17)	2007 Market Value Return on Assets	6.2%
(18)	2007 Actuarial Value Return on Assets	9.8%

Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	January 1, 2007	January 1, 2008
Actuarial Accrued Liability	$234,411,155	$247,050,198
Actuarial Assets	138,063,455	152,421,634
Unfunded Actuarial Accrued Liability	$96,347,700	$94,628,564
Funded Status	58.9%	61.7%

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Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2028, full funding mandate for all accrued liabilities. Per the vote of the Board, the funding schedule for 2010 has remained as it was in last year's valuation report. The pension appropriation is based on the 2007 valuation and is the sum of the:

- Employer normal cost,
- Increasing amortization of the prior unfunded actuarial accrued liability by June 30, 2021
  $ 92,710,564 over 13 years with 4.25% increasing payments
- Level amortization of the 2002 Early Retirement Incentive by June 30, 2019
  $ 407,771 over 11 years
- Level amortization of the 2003 Early Retirement Incentive by June 30, 2020
  $ 1,510,230 over 12 years
- Increasing amortization of the current (gains)/losses by June 30, 2021
  $ -484,431 over 13 years with 4.25% increasing payments
- Interest adjustment for payments contributed monthly over fiscal year.

The pension appropriation is shown in Table VII.

Table VII

	January 1, 2007	January 1, 2008
Normal cost	$2,978,517	$3,059,298
Amortization payment of the accrued liability	8,392,654	8,785,074
Amortization payment of 2002 ERI liability	52,888	52,888
Amortization payment of 2003 ERI liability	185,556	185,556
Total cost	$11,609,615	$12,082,816
% of Pay	26.4%	26.0%
Fiscal 2009 cost	$13,046,583	$13,046,583
Fiscal 2010 cost	$13,538,277	$13,538,277

Appropriation Forecast

The following exhibit is based on the 2007 actuarial valuation and forecasts employer and employee contributions over the next 32 years under the adopted funding schedule. The amounts calculated under the funding schedule for 2010 have remained identical to the results found on last year's report.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2028 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be made at the beginning of the year.

The employer total cost is expected to increase during the next 13 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total cost represents 27.9% of payroll, decreasing to 25.3% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 4.7% in 2028. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

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Appropriation Forecast

Fiscal Year Ending	Payroll*	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2009	$46,432,360	$3,837,376	$3,301,397	$9,745,186	$13,046,583	28.1	61.7
2010	$48,521,816	$4,067,149	$3,392,623	$10,145,654	$13,538,277	27.9	65.4
2011	$50,705,298	$4,309,831	$3,476,786	$10,469,839	$13,946,625	27.5	68.9
2012	$52,987,036	$4,566,119	$3,566,141	$10,903,901	$14,470,042	27.3	72.3
2013	$55,371,453	$4,836,744	$3,656,497	$11,356,410	$15,012,907	27.1	75.6
2014	$57,863,168	$5,122,480	$3,747,764	$11,828,150	$15,575,914	26.9	78.7
2015	$60,467,011	$5,424,138	$3,839,840	$12,319,940	$16,159,780	26.7	81.7
2016	$63,188,026	$5,742,572	$3,932,614	$12,832,630	$16,765,244	26.5	84.6
2017	$66,031,488	$6,078,681	$4,025,962	$13,367,110	$17,393,072	26.3	87.4
2018	$69,002,905	$6,433,411	$4,119,748	$13,924,306	$18,044,054	26.1	90.1
2019	$72,108,035	$6,807,757	$4,213,822	$14,505,182	$18,719,004	26.0	92.7
2020	$75,352,897	$7,202,767	$4,308,021	$15,053,823	$19,361,844	25.7	95.2
2021	$78,743,777	$7,619,542	$4,402,164	$15,485,413	$19,887,577	25.3	97.7
2022	$82,287,247	$8,059,242	$4,496,056	$0	$4,496,056	5.5	100.0
2023	$85,990,173	$8,523,084	$4,589,484	$0	$4,589,484	5.3	100.0
2024	$89,859,731	$9,012,353	$4,682,216	$0	$4,682,216	5.2	100.0
2025	$93,903,419	$9,528,396	$4,774,000	$0	$4,774,000	5.1	100.0
2026	$98,129,073	$10,072,634	$4,864,564	$0	$4,864,564	5.0	100.0
2027	$102,544,881	$10,646,557	$4,953,610	$0	$4,953,610	4.8	100.0
2028	$107,159,401	$11,251,737	$5,040,821	$0	$5,040,821	4.7	100.0
2029	$111,981,574	$11,758,065	$5,267,658	$0	$5,267,658	4.7	100.0
2030	$117,020,745	$12,287,178	$5,504,702	$0	$5,504,702	4.7	100.0
2031	$122,286,678	$12,840,101	$5,752,414	$0	$5,752,414	4.7	100.0
2032	$127,789,579	$13,417,906	$6,011,272	$0	$6,011,272	4.7	100.0
2033	$133,540,110	$14,021,712	$6,281,780	$0	$6,281,780	4.7	100.0
2034	$139,549,415	$14,652,689	$6,564,460	$0	$6,564,460	4.7	100.0
2035	$145,829,138	$15,312,060	$6,859,860	$0	$6,859,860	4.7	100.0
2036	$152,391,450	$16,001,102	$7,168,554	$0	$7,168,554	4.7	100.0
2037	$159,249,065	$16,721,152	$7,491,139	$0	$7,491,139	4.7	100.0
2038	$166,415,273	$17,473,604	$7,828,240	$0	$7,828,240	4.7	100.0
2039	$173,903,960	$18,259,916	$8,180,511	$0	$8,180,511	4.7	100.0
2040	$181,729,638	$19,081,612	$8,548,634	$0	$8,548,634	4.7	100.0

* Calendar basis

** Beginning of Fiscal Year

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GASB Statements No. 25 and No. 27

Effective for periods beginning after June 15, 1997, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 25 and 27. These statements, which replace GASB Statement No. 5, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

Footnote disclosures required by GASB Statement No. 25 and 27 include a description of the plan, a summary of significant accounting policies, and information about contributions, legally required reserves, and investment concentrations. As a result of the oversight of the Public Employees Retirement Administration Commission (PERAC) and the conversion of unpaid contributions to pension related debt, the Net Pension Obligation (NPO) as required by Statement No. 27 will effectively always be equal to $0. The required disclosure information is shown in Table VIII.

Table VIII

		January 1, 2007	January 1, 2008
(1)	Actuarial Accrued Liability	$234,411,155	$247,050,198
(2)	Actuarial Value of Assets	138,063,455	152,421,634
(3)	Unfunded Actuarial Accrued Liability	96,347,700	94,628,564
(4)	Funded Ratio (2)/(1)	58.9%	61.7%
(5)	Covered Payroll	$43,926,570	$46,432,360
(6)	UAAL as a percentage of payroll: (3)/(5)	219.3%	203.8%
(7)	Annual Required Contribution (ARC)	$12,187,397	$13,046,583
(8)	Net Pension Obligation	$0	$0

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PERAC Annual Statement
APPENDIX PAGE 3
ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Buck Consultants as of January 1, 2008.

The normal cost for employees on that date was:	$3,837,376	8.3% of pay
The normal cost for the employer was:	2,742,419	5.9% of pay

The actuarial liability for active members was:	$121,582,419
The actuarial liability for retired and inactive members was:	125,467,779
Total actuarial accrued liability:	247,050,198
System assets as of that date:	152,421,634
Unfunded actuarial accrued liability:	$94,628,564

The ratio of system's assets to total actuarial liability was 61.7%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.0%
Rate of Salary Increase:	5.0%

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a percent of Covered Payroll (b-a)/c
01/01/08	$152,421,634	$247,050,198	$94,628,564	61.7%	$46,432,360	203.8%
01/01/07	138,063,455	234,411,155	96,347,700	58.9%	43,926,570	219.3%
01/01/06	127,405,049	224,623,915	97,218,866	56.7%	40,556,796	239.7%
01/01/04	118,606,924	202,847,851	84,240,927	58.5%	36,506,298	230.8%
01/01/02	112,638,610	184,479,949	71,841,339	61.1%	36,719,366	195.6%

Attach Copy of Current Approved Funding Schedule

EXHIBITS

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Age/Service Distribution with Salary as of January 1, 2008

Attained Age	Average Salary <5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	1	0	0	0	0	0	0	0	0	1
	6,173	0	0	0	0	0	0	0	0	6,173
20-24	17	0	0	0	0	0	0	0	0	17
	22,288	0	0	0	0	0	0	0	0	22,288
25-29	38	13	0	0	0	0	0	0	0	51
	28,064	32,592	0	0	0	0	0	0	0	29,218
30-34	36	30	11	0	0	0	0	0	0	77
	30,189	41,156	49,100	0	0	0	0	0	0	37,164
35-39	46	41	47	9	1	0	0	0	0	144
	30,741	42,371	48,286	42,918	64,903	0	0	0	0	40,777
40-44	38	36	49	32	15	1	0	0	0	171
	23,980	30,396	43,727	58,400	52,079	60,962	0	0	0	40,111
45-49	46	44	46	42	43	2	0	0	0	223
	20,062	30,213	32,620	50,035	58,130	46,734	0	0	0	37,880
50-54	28	43	39	37	36	15	9	0	0	207
	25,120	30,408	28,148	37,399	51,807	58,544	44,384	0	0	36,885
55-59	15	23	32	38	22	12	20	5	0	167
	20,207	27,079	30,535	33,298	40,487	54,413	55,663	48,236	0	36,326
60-64	12	12	20	20	12	8	7	4	0	95
	26,938	27,406	30,149	30,104	32,587	44,212	48,833	56,774	0	33,377
65-69	3	4	7	10	7	4	1	0	1	37
	23,172	22,382	27,454	31,709	32,516	41,120	28,474	0	33,706	30,340
70+	1	0	3	1	0	0	0	1	0	6
	15,680	0	25,562	61,753	0	0	0	21,371	0	29,248
Total Employees	281	246	254	189	136	42	37	10	1	1,196
Average Salary	25,628	33,203	37,006	42,257	49,413	52,470	50,892	48,965	33,706	36,862

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Retiree Distribution as of January 1, 2008

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	1	1	0	5,915	5,915
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	1	0	1	1,380	0	1,380
40-44	0	2	2	0	13,193	13,193
45-49	2	2	4	12,815	14,634	27,449
50-54	5	3	8	141,711	48,414	190,124
55-59	31	16	47	1,111,942	209,458	1,321,400
60-64	40	28	68	1,098,935	265,924	1,364,859
65-69	45	55	100	1,183,997	586,787	1,770,784
70-74	50	48	98	1,146,827	656,383	1,803,210
75-79	55	58	113	1,190,545	639,514	1,830,059
80-84	65	77	142	1,489,456	750,293	2,239,749
85-89	29	53	82	644,439	396,441	1,040,880
90-94	12	37	49	188,108	364,405	552,513
95-99	4	10	14	50,861	83,081	133,943
Total	339	390	729	8,261,016	4,034,443	12,295,459
Average (Age/Payment)	73.6	77.0	75.4	24,369	10,345	16,866
Frequency Percent	46.5	53.5	100.0	67.2	32.8	100.0

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Disabled Retiree Distribution as of January 1, 2008

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	2	0	2	82,158	0	82,158
40-44	6	0	6	195,844	0	195,844
45-49	4	0	4	110,778	0	110,778
50-54	8	0	8	208,651	0	208,651
55-59	15	2	17	354,701	45,775	400,477
60-64	18	0	18	504,063	0	504,063
65-69	11	0	11	274,089	0	274,089
70-74	8	2	10	229,957	51,511	281,468
75-79	9	0	9	201,495	0	201,495
80-84	8	0	8	178,971	0	178,971
85-89	2	0	2	57,372	0	57,372
90-94	1	0	1	39,951	0	39,951
95-99	0	0	0	0	0	0
Total	92	4	96	2,438,030	97,286	2,535,316
Average (Age/Payment)	63.8	65.9	63.9	26,500	24,322	26,410
Frequency Percent	95.8	4.2	100.0	96.2	3.8	100.0

EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2008	$6,477,706	$3,837,376	$13,046,583	$11,864,509	$22,270,762
2009	6,859,207	4,067,149	13,538,277	13,620,984	24,367,203
2010	7,256,493	4,309,831	13,946,625	15,655,689	26,655,652
2011	7,748,241	4,566,119	14,470,042	17,773,883	29,061,803
2012	8,279,866	4,836,744	15,012,907	20,083,442	31,653,227
2013	8,788,543	5,122,480	15,575,914	22,601,681	34,511,532
2014	9,319,160	5,424,138	16,159,780	25,348,222	37,612,979
2015	9,909,824	5,742,572	16,765,244	28,341,051	40,939,044
2016	10,517,908	6,078,681	17,393,072	31,599,847	44,553,692
2017	11,094,862	6,433,411	18,044,054	35,149,636	48,532,239
2018	11,745,512	6,807,757	18,719,004	39,015,458	52,796,707
2019	12,385,198	7,202,767	19,361,844	43,223,350	57,402,763
2020	13,044,709	7,619,542	19,887,577	47,799,181	62,261,592
2021	13,744,885	8,059,242	4,496,056	52,708,893	51,519,306
2022	14,423,277	8,523,084	4,589,484	56,813,263	55,502,554
2023	15,021,511	9,012,353	4,682,216	61,240,209	59,913,267
2024	15,555,449	9,528,396	4,774,000	66,023,357	64,770,304
2025	16,139,488	10,072,634	4,864,564	71,193,977	69,991,687
2026	16,731,287	10,646,557	4,953,610	76,782,938	75,651,818
2027	17,221,151	11,251,737	5,040,821	82,829,698	81,901,105
2028	17,656,089	11,758,065	5,267,658	89,369,561	88,739,195
2029	18,109,856	12,287,178	5,504,702	96,455,951	96,137,975
2030	18,453,111	12,840,101	5,752,414	104,138,806	104,278,210
2031	18,682,602	13,417,906	6,011,272	112,477,581	113,224,157
2032	18,829,751	14,021,712	6,281,780	121,535,510	123,009,251
2033	18,962,276	14,652,689	6,564,460	131,377,080	133,631,953
2034	19,033,784	15,312,060	6,859,860	142,071,132	145,209,268
2035	19,052,486	16,001,102	7,168,554	153,693,723	157,810,893
2036	18,984,813	16,721,152	7,491,139	166,328,129	171,555,607
2037	19,622,012	17,473,604	7,828,240	180,034,770	185,714,602

amounts in thousands

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2008, and does not take into account any subsequent changes.

1. Administration

Each of the 107 contributory retirement systems for public employees of the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. Participation

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporary, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

(i) Group 1: Most general employees in State and local government

(ii) Group 2: Certain specified hazardous duty positions

(iii) Group 3: State police officers and inspectors

(iv) Group 4: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

3. Salary

Salary is defined as gross regular compensation. Salary does not include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	2.0% of Salary in excess of $30,000

5. Average Salary

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.)

6. Creditable Service

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. Service Retirement

a. Eligibility:

For an employee to be eligible for service retirement (also referred to as superannuation), one of the following conditions must be met:

(i) completion of 20 years of service

(ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member

(iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table:

Age at	Percentage of Average Salary		
Retirement	Group 1	Group 2	Group 4
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

8. Deferred Vested Retirement

a. Eligibility:

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. Benefit Amount:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus $648.48 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55. If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55, he will receive not less than the superannuation allowance to which he is entitled.

11. Survivor Benefits

a. Occupational Death:

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. Non-Occupational Death:

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of $250 per month to the surviving spouse, plus $120 for the first child, plus $90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of $250 per month plus $120 for the first child and $90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is $12,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

(i) Option A – Life annuity

(ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member

(iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below.

1. Member Data

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. Valuation Date

January 1, 2008.

3. Actuarial Cost Method

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 8.0% per annum.

5. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and $12,000 per year.

6. Salary Scale

The assumed annual rates for salary increases including longevity are illustrated by the following rates:

Service	General Employees	Police and Fire Employees
0	7.00%	8.00%
1	6.50%	7.50%
2	6.50%	7.00%
3	6.00%	6.50%
4	6.00%	6.00%
5	5.50%	6.00%
6	5.50%	5.50%
7	5.00%	5.50%
8	5.00%	5.25%
9+	4.75%	5.25%

7. Value of Investments

Assets held by the fund are valued at market value as reported by the Public Employees' Retirement Administration Commission (PERAC). Actuarial assets equal preliminary asset value plus 25% of the difference between market value and preliminary asset value. Preliminary asset value is the previous years' actuarial asset amount increased by net cash flow and expected investment income. The result must be within 20% of market value.

8. Annual Rate of Withdrawal Prior to Retirement

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

Service	General Employees	Police and Fire Employees
0	0.1500	0.0150
10	0.0540	0.0150
20	0.0200	0.0000
30	0.0000	0.0000

9. Annual Rate of Mortality

It is assumed that both pre-retirement and post retirement mortality are represented by the RP-2000 Mortality Table for males and females. Mortality for disabled members is represented by the RP-2000 Mortality Table set forward two years for all disabled members.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages:

Age	Male General Employees	Female General Employees	Male and Female Police and Fire Employees
50	0.0100	0.0150	0.02000
51	0.0100	0.0150	0.02000
52	0.0100	0.0200	0.02000
53	0.0100	0.0250	0.05000
54	0.0200	0.0250	0.07500
55	0.0200	0.0550	0.15000
56	0.0250	0.0650	0.10000
57	0.0250	0.0650	0.10000
58	0.0500	0.0650	0.10000
59	0.0650	0.0650	0.15000
60	0.1200	0.0500	0.20000
61	0.2000	0.1300	0.20000
62	0.3000	0.1500	0.25000
63	0.2500	0.1250	0.25000
64	0.2200	0.1800	0.30000
65	0.4000	0.1500	1.00000
66	0.2500	0.2000	1.00000
67	0.2500	0.2000	1.00000
68	0.3000	0.2500	1.00000
69	0.3000	0.2000	1.00000
70	1.0000	1.0000	1.00000

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

Attained Age	General Employees	Police and Fire Employees
20	0.0001	0.0010
30	0.0003	0.0030
40	0.0010	0.0030
50	0.0019	0.0125

In addition, it is assumed for the general employees that 45% of all disabilities are ordinary (55% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

12. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for plan year 2008 is $325,000 and is anticipated to increase at 4.5% per year.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. Normal Cost

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. Vested Liability

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the Chicopee Retirement System contributing as of January 1, 2008, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

Buck Consultants, LLC

Daniel W. Sherman, ASA, MAAA
Enrolled Actuary No. 08-4086

July 2008